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GENTIANACEÆ.

SABBATIA, Adans.—**S. paniculata,** Pursh; "In bog meadows, July. white" *Torr. Cat.* This is probably a mistake, possibly a white variety of some other species.—**S. angularis,** Pursh; rather common; N. Y.; abundant on Long and Stony Hills, N. J.; Closter, *Austin;* New Durham, *Le Roy;* Staten Island, *W. H. L.;* Glendale, L. I., *Ruger;* frequent in southern part of the state, *State Flora.*—**S. stellaris,** Pursh; common in salt meadows; N. Y.; sometimes white, Coney Island, Aug. 1865, *W. H. L.*—**S. gracilis,** Salisb.; "In wet meadows, New York." *Torr. Cat.,* but as nothing is said of it in the State Flora, we presume that it was a mistake, if indeed this species be distinct from the former.—**S. chloroides,** Pursh; Hackensack meadows; "Brackish bog meadows on the Island of New York, and on Long Island." *State Flora;* Harlem marshes, *Austin.*

ERYTHRÆA, Pers.—**E. ramosissima,** Pers., Var. **pulchella,** Griseb.; wet meadows, Flushing, L. I., *State Flora;* Tappan and Closter, 1857 & 1858, *Austin.*

GENTIANA, L.—**G. quinqueflora,** Lam.; "In woods near Elizabethtown, N. J., Eddy." *Torr. Cat.;* very common in Orange Co., does not occur about Closter, *Austin.*—**G. crinita,** Frœl.; "In low meadows. New York. Toteway mountains. New Jersey." *Torr. Cat.;* Closter, common, often abundant on uplands, *Austin;* Yonkers, *Pooley;* Long Island, *Ruger, Coles;* Hackensack marshes; Long Hill, N. J.; Staten Island.—**G. ochroleuca,** Frœl.; reported by *Eddy in Torr. Cat.,* but discredited by Dr. Torrey in *State Flora,* and evidently by Dr. Gray in *Manual.*—**G. Andrewsii,** Griseb.; common; N. Y.

BARTONIA, Muhl.—**B. tenella,** Muhl.; common; but not reported from N. Y.

OBOLARIA, L.—**O. Virginica,** L.; said to have been found on Orange Mt., N. J., but has not been verified.

MENYANTHES, Tourn.—**M. trifoliata,** L.; a small patch in a bog 1 mile S. E. of Closter, *Austin;* New Durham, *Le Roy;* on N. R. R. of N. J. near its junction with E. R. R. I have pointed out, § 46, that this plant is dimorphous, *W. H. L.;* Suffolk Co., *E. S. M.*

LIMNANTHEMUM, Gmelin.—**L. lacunosum,** Griseb.; "In ponds, Long Island and New Jersey, *Eddy.*" *Torr. Cat.;* Wading River, Suffolk Co., *E. S. Miller;* probably grows elsewhere within our limits.

APOCYNACEÆ.

VINCA, L.—**V. minor,** L.; Stryker's Bay, N. Y.; Ridgewood, Flatlands, &c., L. I., *Ruger;* vid. § 31, Vol. I.

62. Opuntia Rafinesquii, Engelm.—About the middle of last June I gathered some specimens of *Opuntia Rafinesquii,* on a rocky cliff of the Highlands, half a mile north of Cold Spring. One of the plants bore a flower-bud that had just commenced to open. This was laid upon the table in my room at the hotel, but for three days it persistently refused to expand its petals in that shaded place. Then a couple of hours' exposure to the direct warm rays of the sun opened the flower in all its golden beauty. Another plant, bearing four flower-buds, was brought to Albany and placed upon a shelf just behind and above the kitchen stove. The distance of the plant from the stove-pipe was about one foot, so that it had the benefit of a pretty high temperature. Under the influence of the heat from the stove, the flowers expanded one after another, the last one unfolding the eleventh day after the plant had been taken from its native habitat. The specimen was composed of three flattened or leaf-like joints of about the usual size, one basal, the other two, terminal. These showed no signs of suffering from the want of nourishment until about the middle of July, one month after they had been gathered. At this time the basal joint began to wither, and soon after a new shoot put forth from one of the terminal joints. The drying process advanced slowly from the base upwards until the latter part of August, when it was completed so far as the original joints were concerned. In the mean time the new joint had attained a length of one foot. Its growth still continues, it being now (Sept. 15th) fourteen inches long. It is, however, excessively attenuated, being only half an inch wide at its broadest part. It is abundantly supplied with weak, soft, recurved spines about three-eighths of an inch long, and is paler in color than the original plant. It will be interesting to know how long it will continue to grow, but probably its duration will now be short, since it begins to show signs of withering toward the base.

To us who are distant from the ordinary localities of this plant and seldom have an opportunity of observing it, this behavior is interesting. It indicates the need of a high temperature to promote the growth of the plant and to cause the flowers to expand, and also shows a tenacity of life not surpassed even in the famous "Live-for-ever," *Sedum Telephium*, L. It suggests the inquiry whether, in the growth of the new shoot that has been described, the nourishment was drawn mainly from the original joints or from the air. The plant was in contact with no soil and was not once moistened with water. The growth has continued after the complete drying up of the original joints, which would indicate the air and the moisture in it as the sources of supply; but the slight withering of the base of the new shoot suggests the idea of a kind of "robbing-Peter-to-pay-Paul" process, as if the juices of the original joints had in the first place been transferred to the new shoot for its support, and now, this supply having failed, as if the juices of the base of the new shoot were passed along for the support of the apex.

It is also evident that, by placing plants with well developed flower-buds in a cool shaded place, their blossoming may be delayed for a considerable period, and the flowers may then be caused to expand, by the application of heat, at such a time as they may be wanted either for ornament or for exhibition.

Albany, Sept. 18th. CHAS. H. PECK.

M. Prillieux, quoted in *Bowdoin Sci. Rev.* p. 237, 1870, shows that when wilted flowers revive in a moist atmosphere, it is at the expense of the lower portions of the stem, with an actual loss of weight in the whole. EDS.

63. Bees on Gerardia pedicularia, L.—Happening to sit down to-day by what might be called a copse of Gerardia pedicularia—it was so abundant and shrubby—I was interested in observing the humble-bees who were winging about the flowers. To my surprise, I noticed that the noisy fellows did not enter the tube of the corolla, but appeared to alight upon its base. Upon closer examination I found that on every flower (there was no exception) was a perforation upon the upper side of the corolla near its junction with the calyx. Through this opening, which I presume of course is formed by the bees themselves, they appeared to derive the nectar. The air was heavy with the perfume of the flowers, and the humble bees were very numerous. In the books at this moment at my service, I find no notice of this "unkindest cut of all." I suppose, however, that it cannot have escaped the attention of the many botanists now investigating the insect fertilization of plants. After a long inspection I found no bee approaching the flower from the front—although the door stood wide open, and to human seeming the entrance was as easy. I have known of this trick of the bees—and seen it mentioned in regard to other plants—but I do not remember that the Gerardia was among them. If this is the invariable habit of the bees, can they be instrumental at all in the distribution of the pollen, or is the plant also visited in a legitimate manner by some less sneaking insect?

Providence, R. I., Sept. 3d. W. W. BAILEY.

This is the first example in our knowledge of native flowers slit by bees, and would seem to indicate that in this instance they had not been "selected" in adaptation to each other. EDS.

64. Note from Prof. A. M. Edwards.—A few days since, when after Diatoms, I found our garden Portulaca, the brilliant red one, out on the made ground of the marshes back of Hoboken. It was in flower and evidently carried out by the carts which were at that time transporting rubbish to make streets across the marsh. I noticed nearly a dozen plants widely scattered. May we not expect after a time to have this beautiful flower wild in this country?

My friend, Mr. M. C. Cooke of London, whose excellent "Handbook of British Fungi" is just published, is at work on American Fungi. He lately records the following on flowering plants I sent him.—**Æcidum Violæ**, DC.; **Æ. Asterum**, Schw.; **Æ. Grossulariæ**, DC.; **Æ. Dracontii** Schw.; **Trichobasis Sagittariæ**, West. The last is now recorded for the first time out of Europe.

With respect to Diatomaceæ, a year or two back I mentioned at the Lyceum of Natural History that I had found at least two, so-considered, species of *Gomphonema* on the same stipes; proving them to be but "forms" of one species. I now find in a stream on Union Hill, N. J., *Gomphonema constrictum, capitatum, acuminatum* and *cristatum*, with intermediate forms all on the same stipes. This fact, with others relating to the same subject, will be fully treated of with illustrations, in the annals of the Lyceum, and show how